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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,498	05/25/2005	Marco Bosch	13156-00011-US	6482

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EXAMINER

DAVIS, BRIAN J

ART UNIT	PAPER NUMBER
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1621

MAIL DATE	DELIVERY MODE
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09/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/536,498	Applicant(s) BOSCH ET AL.	
	Examiner Brian J. Davis	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6 and 11-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-3,6 and 11-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restriction

The examiner points out for clarity of the record that new claims 20-24 are encompassed by elected Group II.

103 Rejections Maintained and NEW

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The rejection of claim 4 under 35 USC 103(a), outlined in the previous Office Action, is maintained for reasons of record. This rejection is also expanded to include new claims 20-24. Applicant's arguments have been carefully considered but are not persuasive.

Applicant argues that US 2,660,598 does not teach that the reactor as disclosed would be suitable for the preparation of alkyl amines from C₁₋₄ alkanols with ammonia in the gas phase. And the examiner is in perfect agreement. However, the reference was not cited because it taught a reactor for the preparation of alkyl amines from C₁₋₄ alkanols with ammonia in the gas phase. The reference was cited because it taught a reactor useful for gas phase reactions having a fixed bed catalyst and a heat

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exchanger. That is, the reference is a generic teaching of a reactor which is useful in any number of gas phase reactions. Additionally, the heat exchanger would allow an operator to run the reactor isothermally if desired. A reference need not disclose what is well known in the art. *In re Myers*, 410 F.2d 420, 424, 161 USPQ 668, 671 (CCPA 1969).

Applicant further argues that one of ordinary skill would not look to the reactor of US 2,660,598 for the production of methylamines, since the reference does not teach such a reaction. The implication of applicant's argument is that US 2,660,598 falls outside the scope of the instant invention and that one of ordinary skill in the art would not consider the reference germane. However, the practitioner is imputed not only to possess full knowledge of the prior art in his field of endeavor. *In re Winslow*, 365 F.2d 1017, 1020, 151 USPQ 48, 51 (CCPA 1956). But is also imputed to possess knowledge in related fields which are pertinent to his particular problems. *In re Antle*, 444 F.2d, 1168, 1171-72, 170 USPQ 285, 287-88 (CCPA 1971).

Applicant further argues limitations (isothermal operation, etc.) that are not present in the claims as written, nor are they limitations on the apparatus - but rather are actually limitations of a process (claims 20-22).

Applicant further argues that US 6,294,633 does not teach the production of methylamines in a reactor operated isothermally or with good heat removal (no "hotspots"). And the examiner is in perfect agreement. However, the reference was not cited because it taught the production of methylamines in a reactor operated isothermally or with good heat removal, but rather because it taught a shape-selective

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catalyst in the production of methylamines. And as above, a reference need not disclose what is well known in the art (isothermal operation, avoidance of “hotspots,” etc.). Nor, as above, is isothermal operation a limitation of an apparatus claim.

Claims 23 and 24 are included in this rejection because the shape of the coolant tubes is of trivial engineering concern – absent unexpected results. One of ordinary skill in the art would chose coolant tubes whose cross sections do not have corners, because the rate of coolant flow would be expected, for instance, merely from geometric arguments, to be more uniform – and as such, have concomitant beneficial effects of the controllability of reactor temperature. One of ordinary skill in the art would also chose coolant tubes which were of circular or ellipsoidal cross section simply for economic reasons (commercial availability, ease of fabrication, etc.).

Claim Rejections - 35 USC § 112, NEW

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Exactly how the coolant tubes are “arranged” is unclear because the arrangement is defined only by the end result of the arrangement (a temperature range).

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 24 recites the broad recitation "...circular or ellipsoidal...", and the claim also recites "...preferably from 1 to 5 cm...", which is the narrower statement of the range/limitation. Additionally, the tube diameter of the ellipsoidal tube is unclear because an ellipsoid must be described by two "diameters" (a major and a minor axis).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Davis whose telephone number is 571-272-0638. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne (Bonnie) Eyler can be reached at 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 **BRIAN DAVIS**
PRIMARY EXAMINER

Brian J. Davis
September 9, 2007